DATA NEEDS GUIDANCE SHEETS

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GUIDANCE SHEET B.1 - TOPOGRAPHY

Data Description:

Topography is a crucial factor to consider in siting stormwater BMPs. Steep slopes in particular can eliminate the use of many BMPs and reduce the effectiveness of others. For example, the following BMPs have strict slope restrictions: seeding and infiltration = 6 degrees maximum, sod and biofiltration = 14 degrees maximum, silt fences = 27 degrees maximum. Some BMPs can only be utilized on essentially level terrain (e.g., sedimentation basins, detention and wet ponds, and constructed wetlands). In addition, steep slopes in combination with erosion-prone soils (see Soil Types Guidance Sheet) can contribute to high rates of erosion and sedimentation when soils are disturbed, as during new construction activities.

Sources of Information:

Slope maps and contour maps (down to 2-foot intervals) can be produced from digital elevation models (DEMs) and/or 7.5 minute, USGS topographic quadrangles. In cases where contour maps and slope maps have not yet been developed, they could be produced for the entire watershed in a fairly short time with GIS either through the IDEQ (208/373-0550), or Idaho Department of Lands (208/334-0277). If resources were not immediately available to produce these products, USGS quad maps could be used. These maps have a contour interval of 20 feet, with 10 feet supplemental intervals in flatter areas.

GUIDANCE SHEET B.2 - SOIL TYPES

Description:

Of primary concern are highly erodible soils, hydric (wetland) soils, soil depth, and the infiltrative capacity of soils. Highly erodible soils can create a wide range of problems for many types of development and construction. Problems include water quality degradation, fish and wildlife habitat impairment, instability for structures, and aesthetic impairment. Many restrictions exist limiting construction in wetland areas, and many stormwater BMPs are ineffective or impossible to implement in saturated soils. Soil infiltration capacity largely determines the effectiveness of stormwater BMPs (e.g., infiltration trenches and ponds). In glaciated terrain, soil depth can also be widely variable, and soils tend to be relatively under-developed and shallow.

Sources of Information:

The USDA Natural Resource Conservation Service (NRCS) (formerly the Soil Conservation Service--SCS) has published *soil surveys* for many Idaho counties. These surveys are readily available from a local NRCS or Soil and Water Conservation District field office. The soil surveys contain general soil maps, soil descriptions, soil properties, and soil classifications. In addition, NRCS may publish a list of hydric soils in select, surveyed counties and include where hydric soils are most likely to occur, and whether all major components of a soil unit are hydric. Consult the local NRCS office for a list of highly erodible soils, including slope ratings.

NRCS also maintains a more-detailed soil database (SSURGO) than the generalized soil survey. "Soils erosion sensitivity" maps can be developed from this database if it has been digitized. In other cases, the U.S. Forest Service has developed "soil severity" ratings for soils in recently burned areas of a National Forest. For specific sites, soil borings and tests may be necessary to determine soil types and depth, especially in transitional landscape areas. Infiltrative capacity of soils is shown in the table below.

NRCS Hydrologic Soil Groups	Description
Group A	Soils having a high infiltration rate (low runoff potentially) when thoroughly wet. These consist chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission.
Group B	Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of transmission.
Group C	Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils that have a layer that impedes the downward movement of water or soils that have moderately fine texture or fine texture. These soils have a slow rate of water transmission.
Group D	Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clay soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a fragipan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have very slow rate of water transmission.

GUIDANCE SHEET B.3 - LAND USE AND LAND OWNERSHIP

Description:

Land use information and zoning is essential to know before BMP placement. Often this information will already be known for a site where a stormwater BMP is being considered, since BMPs often accompany other development. Zoning information and comprehensive plans determine whether permits can be obtained to build structural BMPs. Land ownership obviously is important to know when considering the implementation of BMPs to ensure all legal considerations are taken into account, access issues are resolved, and maintenance of BMPs is arranged. Availability of land for placement of large structural BMPs, e.g., detention facilities, must also be ascertained in some local situations. Consult the local permitting authority.

Sources of Information:

Current and projected land use data and restrictions can be obtained from a local comprehensive plan from either a munipality or county. To ensure proper compliance with current planning department regulations, the local planning departments should be contacted also. A *county assessor's* office generally have ownership records for specific sites, and the IDEQ (208/373-0115) has generalized ownership maps from various large-scale land owners (e.g., U.S. Forest Service, private timber, large agricultural operations, and others).

GUIDANCE SHEET B.4 - CRITICAL AREAS AND GROUND COVER/VEGETATION

Description:

Critical areas include wetlands, protected and endangered species habitat areas, and floodplains. Ground cover and vegetation can be an indication of critical areas, and can influence the ability to construct and implement stormwater BMPs.

Sources of Information:

Wetlands have been mapped for the National Wetlands Inventory, and these maps are available at a local NRCS field office. The NRCS also has site-specific information or wetland delineations for some specific sites in particular counties, as do the local municipalities, and the Health District offices. Protected and endangered species information is available from the U.S. Fish and Wildlife Service or Idaho Fish and Game Department. Floodplains information can be obtained from the NRCS. Ground cover and vegetation can be identified for large areas from aerial photos, or detailed vegetation surveys can be conducted for specific sites.

GUIDANCE SHEET B.5 - CULTURALLY SIGNIFICANT SITES

Description:

Culturally significant sites include Native American tribal sites, archaeological digs, and historic buildings and areas designated in the National Historic Register built since the arrival of European descendants. Cultural sites must be identified and protected during construction, and if cultural relics are found during construction, construction must cease immediately until the relics can be protected, and the extent of the archaeological find and its significance can be determined.

Sources of Information:

The state archaeologist office (208/334-3847) is a good source of information regarding archaeological sites. The Historic Preservation Office (208/334-3861) is an excellent source of information for historical structures and sites.

GUIDANCE SHEET B.6 - UTILITIES AND INFRASTRUCTURE

Description:

Utilities and infrastructure which can influence construction of BMPs include wastewater, water, gas, electricity, telephone, and transportation (roads, railroads, airports). At the least, utilities must be located before digging. Construction near infrastructure must be coordinated with future infrastructure development plans and easements.

Sources of Information:

Local building/public works/planning department
Local sewer and water districts
Domestic water suppliers
Local transportation
Idaho Transportation Department - (208) 334-8000
Utility company: Idaho Power - (800) 672-4455
Utility locator services
Telephone company

GUIDANCE SHEET B.7 - WATER RESOURCES

Description:

The following water resources greatly influence the ability to construct and implement BMPs: hydrography of tributaries and lakes/reservoirs, groundwater levels/water table depth, well locations, irrigation diversions and canals.

Sources of Information:

IDEQ or US Geological Survey 7.5 minute quadrangles for *hydrography*

Idaho Department of Water Resources (208/327-7900) for:

- groundwater/water table or location nearest monitoring wells or test holes;
- well locations; and
- irrigation diversions and canals.

Irrigation District

- irrigation diversions and canals

GUIDANCE SHEET B.8 - BOUNDARIES

Description:

Watershed boundaries should be ascertained to determine which immediate receiving water body will be affected by the BMPs under consideration, and to be aware of and work in coordination with other activities within the watershed. Political, irrigation district, water district, and sewer district boundaries should be known for legal reasons, and to coordinate BMP activities with the neighboring entities.

Sources of Information:

All boundaries listed exist on IDEQ's Geographical Information System (208/373-0119), or contact the individual entity - irrigation districts, sewer districts, and water districts.

Local irrigation districts

Local sewer and water districts

GUIDANCE SHEET B.9 - OTHER FLOOD REDUCTION AND WATER QUALITY IMPROVEMENT PROJECTS

Description:

Other water quality related projects could be "leveraged" to obtain greater water quality benefits than stand-alone stormwater BMPs. Coordination of adjacent projects would likely yield greater water quality benefits.

Sources of Information:

Flood projects - flood control districts. Water quality - IDEQ (208/373-0502).